

JS 10/21/21

RJA 01/4/22

Ecotox Report for Case # P-18-0068

General

Status	11/07/2018	Report Status:	Complete
Date:		CRSS Date:	12/21/2017
SAT Date:	12/22/2017	SAT	William
		Chair:	Irwin
Consolidated	N	Consolidated Set:	
PMN:			
Ecotox			
Related Cases:			
Health Related			
Cases:			
Submitter:			
CAS Number:			
Chemical Name:			
Use:			
Trade Name:			
PV-max(kg/yr):		Ecotox	Antwi,
		Assessor:	Frank

Fate Summary

Statement

Fate P-18-0068

Summary

Statement: FATE: MW = [REDACTED] with [REDACTED] < 500 and [REDACTED] < 1000

S =

Negligible / Reacts slowly

Hydrolysis half-life = wk

VP <

1.0E-6 torr at 25 °C (E)

BP > 400 °C (E)

H < 1.00E-8 (E)

POTW removal (%) = PMN 90 via sorption and slow hydrolysis; then Hyd Pdt [REDACTED] 90

via

sorption and biodeg; Hyd Pdt [REDACTED] deg 90 via sorption

Time for

complete ultimate aerobic biodeg = Hyd Pdt [REDACTED] wk; Hyd Pdt [REDACTED] deg > mo

Sorption to soils/sediments = PMN strong; Hyd Pdt [REDACTED] [REDACTED] strong; Hyd Pdt [REDACTED] deg

strong

PBT Potential: PMN P1B1; Hyd Pdt [REDACTED] P2B1; Hyd Pdt [REDACTED] deg P3B* (low)

*CEB FATE: Migration to ground water = PMN slow; Hyd Pdt [REDACTED] slow; Hyd Pd

[REDACTED] deg slow

Bioconcentration

factor to be put into E-FAST: Hyd Pdt [REDACTED] = 100.

PMN

Material:

Overall wastewater treatment removal is 90% via sorption and slow hydrolysis.

Sorption to sludge is strong based on high molecular volume.

Air Stripping (Volatilization to air) is negligible based on high molecular volume.

Removal by biodegradation in wastewater treatment is negligible based on high molecular volume.

PMN Material:

Low Persistence (P1) is based on slow hydrolysis (hydrolysis half-life: days to weeks).

Low Bioaccumulation potential (B1) is based on slow hydrolysis (hydrolysis half-life: days to weeks).

Hydrolysis Product [REDACTED]

Overall wastewater treatment removal is 90% via sorption and biodegradation.

Sorption to sludge

is strong based on the estimated physical-chemical properties from EPISUITE.

Air Stripping (Volatilization to air) is negligible based on the estimated physical-chemical properties from EPISUITE.

Removal by

biodegradation in wastewater treatment is high based on structure (fatty acids).

The aerobic aquatic biodegradation half-life is weeks based on structure (fatty acids).

The anaerobic aquatic biodegradation half-life is months based on the aerobic biodegradation half-life. The anaerobic biodegradation half-life is projected to be greater or equal to the aerobic biodegradation half-life.

Sorption to soil and sediment is strong based on the estimated physical-chemical properties from EPISUITE.

Migration to groundwater is slow based on the estimated physical-chemical properties from EPISUITE.

Hydrolysis Product [REDACTED]

Moderate Persistence (P2) is based on the anaerobic biodegradation half-life.

Low Bioaccumulation potential (B1) is based on BCFBAF model estimates.

Hydrolysis Product [REDACTED]

Overall wastewater treatment removal is 90% via sorption.

Sorption to sludge is strong based on structure (inorganic metal oxide) and analogous chemicals.

Air Stripping (Volatilization to air) is negligible based on structure (inorganic metal oxide) and analogous chemicals.

Removal by biodegradation in wastewater treatment is negligible based on structure (inorganic metal oxide) and analogous chemicals.

The aerobic aquatic biodegradation half-life is greater than months based on structure (inorganic metal oxide) and analogous chemicals.

The anaerobic aquatic biodegradation half-life is greater than months based on the aerobic biodegradation half-life. The anaerobic biodegradation half-life is projected to be greater or equal to the aerobic biodegradation half-life.

Sorption to soil and sediment is strong based on structure (inorganic metal oxide) and analogous chemicals.

Migration to groundwater is slow based on structure (inorganic metal oxide) and analogous chemicals.

Hydrolysis Product [REDACTED]

High

Persistence (P3) is based on the anaerobic biodegradation half-life and analogous chemicals.

Bioaccumulation potential (B*-low) is based on analogous chemicals.

Bioconcentration/Bioaccumulation factor to be put into E-Fast: [REDACTED] 100

Physical Chemical Information

Molecular Weight:	[REDACTED]	
Wt% < 500:	[REDACTED]	Wt% < 1000: [REDACTED]
Physical State - Neat:	[REDACTED]	
Melting Point:		Melting Point (est):
MP (EPI):		
Vapor Pressure:		Vapor Pressure (est): <0.000001
VP (EPI):		
Water Solubility:		Water Solubility (est): <0.000001/Reacts
Water Solubility (EPI):		
Henry's Law::		
Log Koc:		Log Koc (EPI):
Log Kow:		Log Kow (EPI):
Log Kow Comment:		

SAT

Concern Level

Ecotox Rating (1):	1
Ecotox Rating Comment (1):	
Ecotox Rating (2):	
Ecotox Rating Comment (2):	
Ecotox Route of Exposure:	No releases to water

Ecotox Comments

Exposure N Based Review (Eco): Ecotox Comments: Exposure Based Testing:
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PBT Ratings

Persistence	Bioaccumulation	Toxicity	Comments
1	1	1	PMN
2	1	1	Hyd Pdt [REDACTED] [REDACTED]
3	*	1	Hyd Pdt [REDACTED] deg

Eco-Toxicity Comment:

Fate Ratings

Removal in WWT/POTW (Overall): Condition	90;90;90 Rating Values	1	2	Rating Description 3	4	Comment
Fish BCF:						
Log Fish BCF:						
WWT/POTW Sorption:	3;3;3	Low	Moderate	Strong	V. Strong	
WWT/POTW Stripping:	4;4;4	Extensive	Moderate	Low	Negligible	
Biodegradation Removal:	4;2;4	Unknown	High	Moderate	Negligible	
Biodegradation Destruction:		Unknown	Complete	Partial	—	
Aerobic Biodeg Ult:	;2;4	<= Days	Weeks	Months	> Months	
Aerobic Biodeg Prim:		<= Days	Weeks	Months	> Months	

Removal 90;90;90 in WWT/POTW (Overall):					Comment
Condition	Rating Values	1	2	Rating Description 3	
				4	
					(B1) is based on slow hydrolysis (hydrolysis half-life: days to weeks).
					Hydrolysis Product [REDACTED]
					Overall wastewater treatment removal is 90% via sorption and biodegradation.
					Sorption to sludge is strong based on the estimated physical-chemical properties from EPISUITE.
					Air Stripping (Volatilization to air) is negligible based on the estimated physical-chemical properties from EPISUITE.
					Removal by biodegradation in wastewater treatment is high based on structure (fatty acids).
					The aerobic aquatic biodegradation half-life is weeks based on structure (fatty acids).
					The anaerobic aquatic biodegradation half-life is months based on the aerobic biodegradation half-life. The anaerobic biodegradation half-life is projected to be greater or equal to the aerobic biodegradation half-life.
					Sorption to soil and sediment is strong based on the estimated physical-chemical properties from EPISUITE.
					Migration to groundwater is slow based on the estimated physical-chemical properties from EPISUITE.
					Hydrolysis Product [REDACTED]
					Moderate Persistence (P2) is based on the anaerobic biodegradation half-life.
					Low Bioaccumulation potential (B1) is based on BCFBAF model estimates.
					Hydrolysis Product [REDACTED]
					Overall wastewater treatment removal is 90% via sorption.
					Sorption to sludge is strong based on structure (inorganic metal oxide) and analogous chemicals.
					Air Stripping (Volatilization to air) is negligible based on structure (inorganic metal oxide) and analogous chemicals.
					Removal by biodegradation in wastewater

Removal 90;90;90 in WWT/POTW (Overall):					Comment
Condition	Rating Values	1	2	Rating Description 3	
				4	
					<p>treatment is negligible based on structure (inorganic metal oxide) and analogous chemicals.</p> <p>The aerobic aquatic biodegradation half-life is greater than months based on structure (inorganic metal oxide) and analogous chemicals.</p> <p>The anaerobic aquatic biodegradation half-life is greater than months based on the aerobic biodegradation half-life. The anaerobic biodegradation half-life is projected to be greater or equal to the aerobic biodegradation half-life.</p> <p>Sorption to soil and sediment is strong based on structure (inorganic metal oxide) and analogous chemicals.</p> <p>Migration to groundwater is slow based on structure (inorganic metal oxide) and analogous chemicals.</p> <p>Hydrolysis Product [REDACTED]</p> <p>High</p> <p>Persistence (P3) is based on the anaerobic biodegradation half-life and analogous chemicals.</p> <p>Bioaccumulation potential (B*-low) is based on analogous chemicals.</p> <p>Bioconcentration/Bioaccumulation factor to be put into E-Fast: [REDACTED] 100</p> <p>Fate Comments: PMN</p> <p>Material:</p> <p>Overall wastewater treatment removal is 90% via sorption and slow hydrolysis.</p> <p>Sorption to sludge is strong based on high molecular volume.</p> <p>Air Stripping (Volatilization to air) is negligible based on high molecular volume.</p> <p>Removal by biodegradation in wastewater treatment is negligible based on high molecular volume.</p> <p>PMN Material:</p> <p>Low Persistence (P1) is based on slow hydrolysis (hydrolysis half-life: days to weeks).</p> <p>Low Bioaccumulation potential (B1) is based on slow hydrolysis (hydrolysis half-life: days to weeks).</p> <p>Hydrolysis Product [REDACTED]</p>

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Condition	Rating Values	1	2	Rating Description 3	
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Ecotoxicity Values

Test organism	Test Type	Test Endpoint	Predicted	Experimental	Comments
Fish	96-h	LC50	*		*= No effects at saturation
Daphnid	48-h	LC50	*		
Green Algae	96-h	EC50	*		
Fish	-	Chronic Value	*		
Daphnid	-	Chronic Value	*		
Green Algae	-	Chronic Value	*		
Ecotox Value Predictions are based on analog data for [REDACTED] Comments: compounds; MW [REDACTED] with [REDACTED] < 1000; solid with an unknown MP (P); S = negligible (P); effective concentrations based on 100% active ingredients and mean measured concentrations; hardness <150 mg/L as CaCO ₃ ; and TOC <2.0 mg/L.					

Ecotox Factors

Factors	Most Sensitive Endpoint	Assessment Factor	CoC	Comment
Acute Aquatic (ppb):				Acute and chronic COC values are not calculated because this chemical's toxicity is expected to be no effects at saturation.
Chronic Aquatic (ppb):				

Factors	Values	Comments
SARs:	██████████	Compounds
SAR	██████████	Compounds-
Class:	insoluble	
TSCA NCC		
Category?	██████████	Compounds

Recommended Potentially Useful

Testing: Information: None

Ecotox Environmental

Factors Hazard and Risk (P-18-0068)

Comments: Environmental Hazard: Environmental hazard

is relevant to whether a new chemical substance is likely to present unreasonable risk because the significance of the risk is dependent upon both the hazard (or toxicity) of the chemical substance and the extent of exposure to the substance. EPA estimated environmental hazard of this new chemical substance using predictions based on the negligible water solubility of P-18-0068 (insoluble ██████████ Compounds; MW ██████████ with ██████████ <500 and ██████████ <1000). Substance falls within the TSCA New Chemicals Category of ██████████ Compounds. Acute and chronic toxicity values estimated for fish, aquatic invertebrates, and algae are all no effects at saturation. These toxicity values indicate that the new chemical substance is expected to have low environmental hazard. Because hazards are not expected up to the water solubility limit, acute and chronic concentrations of concern are not identified.

Environmental Risk:

Risks to the environment were evaluated by comparing estimated surface water concentrations with the acute and chronic concentrations of concern.

Risks to the environment from acute and chronic exposure are not expected at any concentration of the new chemical substance soluble in the water

(i.e., no effects at saturation).

Comments/Telephone Log

Artifact	Update/Upload Time